



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECL-116

ACTION MEMORANDUM

DATE: May 21, 2003

SUBJECT: Request for a Removal Action North Ridge Estates Asbestos Site, Klamath Falls, Klamath County, Oregon

FROM: Daniel D. Heister
On-Scene Coordinator

TO: Michael F. Gearheard, Director
Office of Environmental Cleanup

THRU: Chris Field, Manager
Emergency Response Unit
Office of Environmental Cleanup

CERCLIS ID#: **ORN001002476**
SUPERFUND SITE ID: **10AY**
CATEGORY OF REMOVAL: Time-Critical Removal

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval for a Removal Action described herein for the North Ridge Estates (NRE) Asbestos Site, Klamath Falls, Klamath County, Oregon. The removal is required for immediate reduction of the risk to the public and the environment from the uncontrolled release of asbestos at the Site.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

The historical evidence on this Site is voluminous; an abridged version follows. In 1944, the United States Department of Defense constructed

the Klamath Falls Marine Barracks. The barracks, which hosted up to 5,000 Marines and included over 80 buildings, was designed to treat World War II Marine Corps combat veterans who suffered from tropical diseases related to prolonged combat. Asbestos-containing building materials, including roofing, siding, and flooring, were used throughout the barracks. In addition, underground asbestos insulated steam pipes were installed throughout the facility to heat all the buildings from a central steam plant.

The barracks were closed in 1946 and the facility became the campus for the Oregon Technical Institute (now Oregon Institute of Technology). The facility served as the campus until 1966. The property has been privately owned since 1966. During this time period property owners stripped the vacant buildings of salvageable materials such as copper and wood. According to former site workers, asbestos insulation was stripped from piping and boilers; metal was sold, and the insulation remained at the Site. The property caretaker (from 1966 through 1979), who lived off-site, was often called to the Site at night to respond to reports of vandalism. The property (with 20 buildings) was purchased on or around December 21, 1977 by Melvin L. Stewart, Maurice E Bercot, and Kenneth L. Tuttle, (herein referred to as MBK), the current property owner.

According to Klamath County Code Enforcement Department staff, most of the buildings were demolished in the 1970s, with a few remaining buildings, including the auditorium and swimming pool being demolished in the late 1970s under MBK ownership. The former gymnasium building was not demolished until some time after 1990.

The Oregon Department of Environmental Quality (DEQ) responded to a complaint in the late 1970s of openly accumulated asbestos debris at the property owned and operated by MBK. EPA Region 10, in coordination with DEQ, issued a compliance order in 1979 identifying MBK as owner and operator of a demolition site containing asbestos material waste and ordering MBK to dispose of the material in accordance with 40 CFR § 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements for inactive waste sites. Since the local landfill would not accept asbestos materials, and due to the risks to workers in removing such a large quantity of materials, DEQ agreed to allow MBK, the property owner, to dispose of the asbestos-contaminated materials on-site. In a letter from Mr. Maurice Bercott, MBK acknowledged receiving the Order and agreed to comply with all its terms. There is, however, no indication from the records available for review that the EPA Compliance Order (No. X79-08-14-113) requirements for proper disposal were met. More specifically, there was no indication in the records reviewed by ODHS that locations of ACM disposal sites have ever been recorded on property deeds per the EPA Order that states "The presence and location

of the inactive waste cells must be recorded by an acknowledged document with the appropriate county official and evidence or such submitted to EPA. Such document must be recorded in the same manner as a deed to real property.” (EPA Compliance Order; pg 4 of 5, #5)

Klamath County approved subdivision plans while the property was under the ownership of MBK. The construction of homes in the subdivision started in 1993.

In July 2001, DEQ received a citizen complaint of exposed ACM at the Site. In April of 2002, DEQ provided notice of the Site to EPA Region 10. DEQ also contacted Oregon Department of Human Services (ODHS) Superfund Health Investigation & Education program in May 2002 for assistance in assessing the health risks of exposure to fragments of ACM scattered over approximately 50 acres in the NRE subdivision. In a health consultation document issued on April 17, 2003 ODHS, in consultation with U.S. Agency for Toxic Substances and Disease Registry (ATSDR), determined that there is a clear risk of health effects from exposure to friable asbestos as represented by the volume and extent of friable ACM fragments found on the Site surface in NRE. ODHS and ATSDR consider this situation a past and present public health hazard.

In June 2002, DEQ and MBK entered into a Mutual Agreement and Order (MAO) (Order No. AQ/AB-ER-01-250A). The MAO essentially provided for a survey of affected properties to identify visible ACM and outlined provisions and protocol for the removal of this material. In the summer of 2002 MBK reportedly removed 49 tons of ACM from the surface of 30 lots in the subdivision.

2. Physical Location

NRE is located in South Central Oregon in a high desert area (elevation of 4,500 feet) in Klamath County, Oregon approximately three miles north of Klamath Falls, Oregon (T39 R9 S15). The Site is a subdivision located along both sides of Old Fort Road. The subdivision was platted and built in the early 1990's. Vegetation in the area is sparse, with some scattered ponderosa pines, juniper, and sagebrush. Soil is volcanic and rocky in places. The climate is relatively dry, with an average annual rainfall of 13.2 inches.

Most of the military barracks buildings were west of Old Fort Road. A sewage treatment facility and horse barns were built one-quarter mile to the north. A medical laboratory, dispensary, medical staff housing, the brig, and a rifle range were built on the hillside on the other side of Old Fort Road. The only remaining military buildings are a warehouse (vacant), the brig (renovated into a 5-unit apartment building), and the

medical staff housing (residences on Thicket Court).

3. Site Characteristics

The ACM on site are remnants from the demolition of a complex of over 80 buildings constructed in 1944. Underground asbestos-insulated piping and at least five disposal sites with asbestos containing materials have been identified on several lots. Sampling on 07-31-01 by DEQ of the ACM and steam pipe insulation confirmed that these materials were composed of 10% to 90% asbestos. The ACM fragments were determined to be friable, as they had been fragmented through demolition and were crumbling and deteriorating to the touch. MBK has sold some of the lots, but currently retains ownership of some portion of the property.

Currently there are 63 residents, including 26 children (10 age six and under), in the area surveyed for ACM fragments. There are 22 homes, nine vacant home sites, and a memorial park, privately owned but open to the public, in this section of the subdivision. East of Old Fort Road are several homes, a five-unit apartment building, and additional North Ridge Estates lots. Land to the west, north and east of the subdivision is zoned for forestry, grazing, and agriculture. According to the 2000 U.S. Census, there are 98 residents, including 14 children age six and under, within one half mile of the property.

4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant.

Asbestos is a hazardous substance as defined by 40 CFR Section 302.4 of the NCP. Other contaminated dust and soil created by the demolition activities likely remain in the environment and can be re-entrained, leading to inhalation exposures.

5. National Priorities List (NPL) Status

The Site is currently neither on nor proposed for the NPL.

6. Maps, Pictures and other Graphic Representations

Refer to Attachments A, B, ...C.

B. Other Actions to Date

1. Previous Actions

Previous actions are discussed above in Section II.A 1 .

2. Current Actions

The most current Actions are discussed in II.C.1 below.

C. State and Local Authorities' Roles

1. State and Local Actions to Date.

Pursuant to the public health hazard determination provided by ODHS and ATSDR, the DEQ determined that the scope of necessary actions at NRE warranted expansion to include a human health risk evaluation to be overseen by the DEQ Cleanup Program. During February and March, 2003, the DEQ attempted to negotiate a Remedial Investigation/Feasibility Study Consent Order with MBK, which included asbestos removal; site characterization; risk assessment; and feasibility study components. After approximately six weeks of negotiations with MBK, DEQ was unable to reach agreement with them on important elements of the Consent Order. Because this is a time sensitive investigation, DEQ determined it necessary to move forward on removal and investigation actions without further negotiations. DEQ has referred this Site to EPA for emergency removal and assessment to ensure that a timely response is conducted to mitigate any imminent threat to human health and the environment posed by friable asbestos. DEQ has determined that the Site is a high priority for further action, and that a focused site assessment and possible interim measures must be completed promptly to mitigate any imminent threat to human safety.

III. THREATS TO PUBIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

The Site conditions pose a significant threat to public health and welfare which meet the criteria for response action under 40 C.F.R. § 300.415(b)(2) of the National Contingency Plan (NCP) as follows:

1. *Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants 40 C.F.R. § 300.415 (b) (2) (i).*

Asbestos in the form of insulation surrounding historic heating pipes (amosite), as well as crysotile from siding, shingles and other building materials are present on site. Asbestos has been confirmed on site by DEQ officials. It is unknown how much total asbestos remains on site as some has been historically buried or removed.

2. *High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate 40 C.F.R. § 300.415 (b) (2) (iv).*

ACM containing materials are visible at the surface and below the surface throughout the Site. During January and February of 2003, the DEQ with assistance from ODHS and ATSDR determined that NRE constitutes a ongoing public health hazard.

3. *Weather conditions that may cause hazardous substances pollutants or contaminants to migrate or be released 40 C.F.R. § 300.415 (b) (2) (v).*

The hotter temperatures, dry weather, and strong winds typical in the summer in the Klamath basin will continue to aid in the migration of asbestos containing soils. As soils dry out they are more likely to be transported by wind, causing the asbestos to become airborne and available for inhalation. In the spring time snow melt, rainfall, or other forms of run-off inducing events will tend to spread the contamination and uncover previously buried ACM.

4. *The availability of other appropriate federal or state response mechanisms to respond to the release 40 C.F.R. § 300.415 (b) (2) (vii).*

No other local, state, or federal agency is in the position or has the resources to independently implement an effective response action to address the on-going threats presented at the Site. EPA will conduct its actions in concert with state and local authorities.

5. *Other situations or factors that may pose threats to public health or welfare of the United States or the environment 40 C.F.R. § 300.415 (b) (2) (viii).*

Debris piles containing ACM remain on lots now occupied by residential homeowners with children. Asbestos fibers could be released from these piles through activities including homeowner landscaping and children playing.

B. Threats to the Environment

The Site investigation has not proceeded far enough to know if the asbestos contamination is a threat to animals, water, and other parts of the environment. Asbestos is primarily a threat to human health.

IV. **ENDANGERMENT DETERMINATION**

Asbestos is a generic term for a group of six naturally-occurring fibrous silicate minerals.

Asbestos can cause asbestosis and is a recognized human carcinogen, causing lung cancer and mesothelioma, a lethal neoplasm of the lining of the chest and abdominal cavities. Cancer of the larynx and esophageal lining has also been associated with exposure to asbestos. Commercial forms of asbestos have been found to be carcinogenic in experimental animals.

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

Attachment A outlines the proposed actions required to mitigate the threat to the public health and welfare or the environment posed by the asbestos present. In general, these areas have visible ACM debris strewn across the landscape and/or ACM debris only marginally covered with soil. A more detailed Scope of Work for this project is being developed with the assistance of a U.S. EPA Site Assessment Manager (SAM) for integrating removal and remedial actions.

The currently proposed removal action will involve the following:

a Remove Visible ACM:

Visible friable asbestos is the primary constituent-of-interest at NRE and still exists despite past DEQ and EPA Orders. Excavation of contaminated residential soils will be conducted to mitigate the threat of asbestos near the residences. Depth of the excavation has not been determined and will be decided under consultation with ATSDR, state and local agencies, and others as appropriate. Other visible ACM will be collected from the surrounding acreage and properly disposed.

b Identify Extent and Degree of Contamination:

Samples will need to be collected from soil, air and ACM materials. The degree and nature of friable asbestos in residential soils and indoor dust is not presently known, and this data gap represents a significant potential human health hazard until quantified and interpreted. If it is determined that a residence has unacceptable levels of asbestos after indoor air sampling, steps will be taken eliminate the risk. Steps may include HEPA vacuuming, lock down, soil excavation, and any steps required to insure the residence is inhabitable.

c Identify and Mitigate Further Exposure with Capping and or Deed Restrictions:

There are several known locations of asbestos burial sites that are insufficiently covered or capped and poorly delineated, and it is very likely that additional burial sites for ACM are not identified or characterized. These areas will need to be addressed and mitigation techniques such as capping or deed restrictions used. These burial sites will be identified, delineated, GIS logged, and stabilized. Stabilization may include removing, capping, grading, revegetation, et. The larger burial sites (located at the old swimming pool and on the Cornachione property) will be evaluated for structural integrity and any structural issues will be addressed. The sites will also be stabilized and secured to minimize the potential for air emissions due either to wind or unintended activities by trespassers.

d Transportation and Disposal of Waste

ACM will be handled, stored and disposed in accordance with OAR Chapter 340, Division 248 and in accordance with EPA-approved work plans.

2. Contribution to Remedial Performance

EPA has not yet made a decision regarding remedial action for the Site. The proposed removal actions should complement and contribute to the overall success of any remedial actions in the future.

3. Alternative Actions/Technologies. In addition to the proposed alternative, for purposes of this time-critical removal action, two other alternatives were considered. Alternative 1 would provide for no removal actions at the Site, at least until receipt and evaluation of further sampling data. Alternative 2 would provide for complete excavation of all known ACM for proper disposal in an off-site facility. Alternative 1 (No Action) is not recommended because it would not provide for timely response to the actual or potential imminent and substantial human health posed by the asbestos-containing material presently within residential properties of the Site. Alternative (Complete Excavation) 2 is not recommended because stabilization of ACM in place may be less expensive and pose fewer risks of releasing asbestos fibers to ambient air.

4. Engineering Evaluation/Cost Analysis (EE/CA)

An EE/CA was not developed for this action. This is a time-critical removal and does not require an EE/CA.

5. Applicable or Relevant and Appropriate Requirements.

The National Contingency Plan, implementing CERCLA, requires that removal actions attain Applicable or Relevant and Appropriate Requirements (ARARs) under federal or state environment or facility siting laws, to the extent practicable. 40 CFR § 300.415(j). In determining whether compliance with ARARs is practicable, EPA may consider the scope of the removal action. 40 CFR § 300.415(j)(2). The scope of the removal action proposed in this Action Memorandum is limited. For example, because impacts to surface waters have not been observed, ARARs for the Site do not include water quality standards under the Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et seq.* To the extent practicable, the proposed removal action will attain ARARs, including substantive elements of the federal Clean Air Act National Emission Standard for Asbestos, 40 C.F.R. § 61.14, and the Asbestos Requirements of Oregon Administrative Rules Chapter 340, Division 248.

On April 22, 2003, EPA requested DEQ to identify state ARARs for this Site. In referring this Site to EPA, DEQ has agreed to share all relevant information and provided notice of all state ARARs listed below.

State ARARs

The following is a summary of state ARARs identified to date that may be applicable, or relevant and appropriate, to the proposed removal action:

State of Oregon Hazardous Waste Management Rules, (HWM) and its implementing rules codified at OAR Chapter 340 division 093 to 0190, OAR division 340 032-0120, OAR division 340 032-5590 to 5650 (determined to be applicable). Since the state of Oregon has been authorized by EPA to implement the HWM regulations in lieu of the federal RCRA regulations, the applicable RCRA regulations for this removal action shall be those EPA-authorized state regulations which are the counterparts to the federal RCRA regulations which were listed above. If no state rule counterpart exists, then the federal RCRA regulations listed above shall apply.

Transportation of Hazardous Waste Materials, Chapter 340, Division 103, relating to the transportation of hazardous wastes to an off-site disposal facility.

Minimum Functional Standards for Solid Waste Handling, Chapter 340, Division 102 relating to the disposal of non-hazardous waste.

6. Project Schedule

Response activities can begin immediately after approval of the Action Memorandum. The removal action should take approximately six months to implement.

B. Estimated Costs

Extramural Costs

START	\$ 130,000
ERRS	300,000
Contingency 15%	<u>64,500</u>
Subtotal, Extramural Costs	\$494,500

Intramural Costs

EPA Direct	\$ 40,000
USCG Strike Team	<u>30,000</u>
Subtotal	\$ 70,000
Subtotal of Extra /Intramural	<u>\$ 564,500</u>
10% Project Contingency	\$ 56,450

REMOVAL PROJECT CEILING

\$ 620,950

EPA direct and indirect costs, although cost recoverable, do not count toward the Total Removal Project Ceiling for this removal action.

For a PRP- lead cleanup

Intramural Direct Costs	\$ 70,000
Extramural Direct Costs	\$ 40,000
Indirect Costs	<u>\$ 28,600</u>
Subtotal PRP-Lead Removal	<u>\$138,600</u>

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If this action is delayed or not taken, the threat of exposure to humans and the environment will continue to exist and may increase due to migration of contaminants.

VII. OUTSIDE POLICY ISSUES

None.

VIII. ENFORCEMENT

See confidential Enforcement Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the North Ridge Estates Asbestos Site, developed in accordance with CERCLA as amended, and is not

inconsistent with the NCP. This decision to conduct removal and assessment activities has been selected to alleviate the threats to human population posed by the asbestos contamination.

Conditions at the North Ridge Estates Site meet NCP Section 300.415(b) criteria for a removal action and I recommend your approval of the proposed removal action. The removal project ceiling, if approved, will be \$ 620,950. This amount comes from the Regional Removal Allowance. Approximately \$494,500 will be for Extramural cleanup contractor funding, all of which will be from the regional removal funds.

APPROVED

DISAPPROVED

Michael F. Gearheard, Director
Office of Environmental Cleanup

Michael F. Gearheard, Director
Office of Environmental Cleanup

Date: _____

Date: _____

CONCURRENCE				
SIGNATURE				
SURNAME	Daniel D. Heister On-Scene Coordinator	Deb Yamamoto Remedial Project Manager	Chris Field Unit Manager	Thomas Eaton Associate Director
DATE				

Attachments: 1) Proposed Action Items
 2) 1979 US EPA Order No. X79-08-14-113,
 3) Map of Site

**TABLE 1:
TRACK A TASKS OF THE TIME-CRITICAL REMOVAL**

Task Number	Task Title	Time to Complete
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1A	Submit a Workplan for a Physical Removal	14 days after the effective date
2A	Submit a Health and Safety Plan for Site Activities	15 days after the effective date
3A	Conduct a Physical Removal Action (Surficial Cleanup of Residential Properties)	Begin 7 days after approval of the workplan
4A	Submit a Workplan for Landfill Stabilization	32 days after the effective date
5A	Compile a Site History by Conducting a Formal Preliminary Assessment	Completed 32 days after the effective date
6A	Submit a Sampling and Analysis Plan (SAP) for a Fast-Track Sampling Program	32 days after the effective date
7A	Create a Digital GIS Site Map with Multiple Layers to Present Relevant Site Features and the Results of All Sampling and Analysis	Ongoing
8A	Conduct a Geophysical Analysis to Locate Abandoned Steam Pipes on Residential Properties	Begin 5 days after approval of the SAP
9A	Conduct Sampling of Residential Soils and Preliminary Sampling of Homes and Ambient Environment	Begin 5 days after approval of the SAP
10A	Create a Database for Managing Data	Ongoing
11A	Stabilize/Secure Site Burial sites	Begin 15 days after approval of SAP
12A	Submit a Plan to Stabilize Site While Track B work is Completed	Depends on SAP Sampling Results